



Third West Weekly Report Shepherd, Michael

to:

Joyce Ackerman, 'Craig Barnitz (cbamitz@utah.gov)' 01/12/2012 11:32 AM

Hide Details

From: "Shepherd, Michael" < Michael. Shepherd@PacifiCorp.com>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Barnitz (cbamitz@utah.gov)'" <cbamitz@utah.gov>

7 Attachments .











Weekly Report 01-02-12 to 01-06-12.pdf Third West Weekly Log 2012-01.pdf 227086-1.pdf 227101-1.pdf 227191-1.pdf





227273-1.pdf 227556-1.pdf

Joyce & Craig,

Attached are the reports for the week of January 2, 2012.

All air monitoring results came back negative, except the positive hits of chrysotile on Tuesday and Friday last week.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
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3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

	<u>DAILY CHECKLIST</u>
DATE:	1/2/12
General	
<u>Generar</u> ☑	Work area Health and Safety Inspection
NA	Review and innecessary update Activity Hazard Analyses (AHA) based on planned site
- 1	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA	Complete all CSHASP Forms (for applicable activities planned for that day)
NA	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D.
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
NA	Exclusion zone operations are practiced as instructed.
	NA Decontamination unit is working properly.
•	NA Workers are using decontamination unit as instructed.
	NA Workers use personal protective equipment properly.
$ \overline{\checkmark} $	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
☑	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
Ø	Review sign-in/sign-out log throughout and at the end of the workday.
☑	Secure the site at the end of the workday; PacifiCorp Employee
Sampling	g
NA	Soil Confirmation sampling for any newly excavated areas
NA	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





NA Electronically file photo files into the on-site database ablaComplete Field Documentation Field Sample Data Sheets (FSDS) $\sqrt{}$ ablaLogbook On-site computer database NA ablaLabel each sample media with a unique number Seal sample(s) in zip lock plastic bags abla $\overline{\mathbf{A}}$ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory \square Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples ablaReview and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees NA Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project:	3rd West Sub Station	Date:	1/2/12
Location:	3rd West, 1st South, SLC	Job Number:	
Survey Conducted By:	Jon Craig	Title:	IH Technician

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.	х			
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.	x			
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.	х			
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			х	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.	x			
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.	x			*
1926.1053 (b)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	e e
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.	x			
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			W.
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			x	
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a 1/2" fire resistance barrier.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			х	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	*
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

CVE is not on site today.

Newman spent the day excavating in West end of the switch gear area. One load of contaminated materials was loaded for disposal at Clean Harbor.

Exclusion Zone was active today.





3^{RD} West Substation Remediation Project

HEALTH SAFETY MANAGER (HSM)

E A CENT	DAILY CHECKLIST
DATE:	1/3/12
General	
<u> </u>	Work area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA	Complete all CSHASP Forms (for applicable activities planned for that day)
NA	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
NA	Exclusion zone operations are practiced as instructed.
	NA Decontamination unit is working properly.
	NA Workers are using decontamination unit as instructed.
	NA Workers use personal protective equipment properly.
Ø	Set air samples at cardinal compass points around exclusion zone. Check
_	throughout the day to ensure proper operation.
Ø	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
	Review sign-in/sign-out log throughout and at the end of the workday.
☑	Secure the site at the end of the workday; PacifiCorp Employee
Sampling	
NA	Soil Confirmation sampling for any newly excavated areas
NA	Stationary Air Monitoring during contaminated soil removal around the perimeter of the
NA	exclusions zone Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil
	removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





NA	Electronically file photo files into the on-site database
$\overline{\mathbf{Q}}$	Complete Field Documentation
\square	Field Sample Data Sheets (FSDS)
\square	Logbook
NA	On-site computer database
$\overline{\mathbf{A}}$	Label each sample media with a unique number
$\overline{\mathbf{Y}}$	Seal sample(s) in zip lock plastic bags
\square	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Ø	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
$\overline{\mathbf{Y}}$	Review and disseminate sample results as received from the laboratories to Project
	Manager and other appropriate managers and employees
NA	Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project:	3rd West Sub Station	Date:	1/3/12
Location:	3rd West, 1st South, SLC	Job Number:	
Survey Conducted By:	Jon Craig	Title:	IH Technician

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	,
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	• , ,
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.	х			
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	х			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.	x			
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.		,	x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.	x			
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			х	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.	x			
1926.403 (b)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

		In Compliance	Out of Compliance	N/A	• Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.	х			
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.	х			
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			x	
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½" fire resistance barrier.	х			

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		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	х			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			x	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	•
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

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Standard	Title				Date
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1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х			
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

CVE is not on site today.

Newman spent the day finishing the excavating in West end of the switch gear area and backfilling the over-excavation. One load of contaminated materials was loaded for disposal at Clean Harbor.

Exclusion Zone was active today.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

	DAILT CHECKLIST
DATE:	1/4/12
<u>General</u>	
<u> </u>	Work area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
- 1	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA '	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record, Form B (where applicable
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with
	contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
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NA	Illness/Injury Report Form A
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	NA Workers use personal protective equipment properly.
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	throughout the day to ensure proper operation.
☑	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
_ ☑	Review sign-in/sign-out log throughout and at the end of the workday.
· 🗹	Secure the site at the end of the workday; PacifiCorp Employee
Sampling	
NA	Soil Confirmation sampling for any newly excavated areas
NA	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel





NA Electronically file photo files into the on-site database Complete Field Documentation Field Sample Data Sheets (FSDS) \square Logbook \square NA On-site computer database \square Label each sample media with a unique number Seal sample(s) in zip lock plastic bags Complete and include Chain of Custody (COC) Form required for shipping of samples to \square appropriate laboratory Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples $\sqrt{}$ Review and disseminate sample results as received from the laboratdries to Project Manager and other appropriate managers and employees Electronically file sample reports into on-site database NA



3rd West Substation Site Project Safety Audit

Project:	3rd West Sub Station	Date:	1/4/12
Location:	3rd West, 1st South, SLC	Job Number:	F
Survey Conducted By:	Jon Craig	Title:	IH Technician

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
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1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			х	v v
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

Standard	Title	In Compliance	☐ Out of Compliance	□ N/A	Corrective Action Taken and Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.	x			
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1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
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1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.	х			
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1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.	x			
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.		-	x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.	х			
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1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			x	
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½" fire resistance barrier.	х			,

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1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			х	
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CVE is not on site today.

Newman spent the day loading contaminated materials for disposal at Clean Harbor. A total of 6 trucks with trailer dumps were loaded today.

Exclusion Zone was active today.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

	DAILT CHECKLIST
DATE:	1/5/12
<u>General</u>	
<u> </u>	Work area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
	activities for the day
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	contaminated material.
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NA	Site-Specific Training Record Form C
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NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
NA	Exclusion zone operations are practiced as instructed.
	NA Decontamination unit is working properly.
	NA Workers are using decontamination unit as instructed.
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	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
Ø	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
$\overline{\mathbf{Q}}$	Review sign-in/sign-out log throughout and at the end of the workday.
	Secure the site at the end of the workday; PacifiCorp Employee
Sampling	
NA	Soil Confirmation sampling for any newly excavated areas
NA	Stationary Air Monitoring during contaminated soil removal around the perimeter of the
	exclusions zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





NA	Electronically file photo files into the on-site database
\square	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
$\overline{\mathbf{A}}$	Logbook
NA	On-site computer database
✓ .	Label each sample media with a unique number
$\overline{\mathbf{V}}$	Seal sample(s) in zip lock plastic bags
7	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
☑	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
\square	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
NA	Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project:	3rd West Sub Station	Date:	1/5/12
Location:	3rd West, 1st South, SLC	Job Number:	
Survey Conducted By:	Jon Craig	Title:	IH Technician

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	, *1
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x		j.	
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

Chan Jan J		In Compliance	Out of Compliance	D N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.	х			
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	х			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.	x			
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.	х			
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			х	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.	x			
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			*
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.	x	-		
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.	x			
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			x	
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½" fire resistance barrier.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x	E R		
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	. 6
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			х	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

-

Standard	Title	☐ In Compliance	Out of Compliance	N/A	Corrective Action Taken and
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х			
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

CVE continued framing out footings and placing rebar on the switch gear. Installed pedestal grating supports.

Newman spent the day loading contaminated materials for disposal at Clean Harbor. A total of 13 trucks with trailer dumps were loaded today.

Exclusion Zone was active today.





3RD WEST SUBSTATION REMEDIATION PROJECT **HEALTH SAFETY MANAGER (HSM)**

	<u>DAILY CHECKLIST</u>
DATE:	1/6/12
Cenaral	
<u>General</u> ☑	Work area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
11/4	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA	Complete all CSHASP Forms (for applicable activities planned for that day)
NA	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
NA	Exclusion zone operations are practiced as instructed.
	NA Decontamination unit is working properly.
	NA Workers are using decontamination unit as instructed.
	NA Workers use personal protective equipment properly.
\square	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
☑	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
\square	Review sign-in/sign-out log throughout and at the end of the workday.
☑	Secure the site at the end of the workday; PacifiCorp Employee
Sampling	y Da
NA	Soil Confirmation sampling for any newly excavated areas
NA	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





NA	Electronically file photo files into the on-site database
\square	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
	Logbook
NA	On-site computer database
$\overline{\mathbf{V}}$	Label each sample media with a unique number
	Seal sample(s) in zip lock plastic bags
\square	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
☑	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
	Review and disseminate sample results as received from the laboratories to Project
	Manager and other appropriate managers and employees
NA	Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project:	3rd West Sub Station	Date:	1/6/12
Location:	3rd West, 1st South, SLC	Job Number:	
Survey Conducted By:	Jon Craig	Title:	IH Technician

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.		18	х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.	х			* *
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	х			,
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.	х			
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.	х			
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.	x			
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.	x			
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.	x			
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			ė
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х	=		
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			x	
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½" fire resistance barrier.	х			

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Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			х	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	4
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

CVE continued framing out footings and placing rebar on the switch gear. Continued installed pedestal grating supports.

Newman spent the day loading contaminated materials for disposal at Clean Harbor. A total of 4 trucks with trailer dumps were loaded today. Also, began hand demolition of center building. Exclusion Zone was active today.



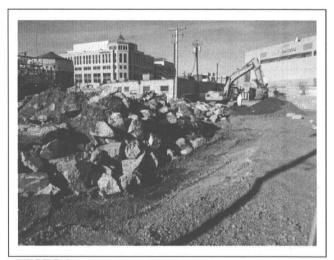
РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

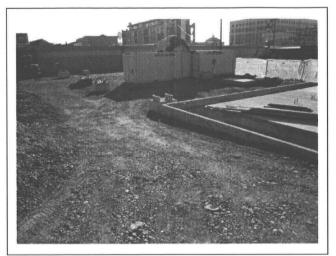
R&R Environmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	DCR						
CREATED BY: JRWC	DATE: 1/2/2012	FILE:						

SITE PHOTOGRAPHS





РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R&R Environmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

CREATED BY:
JRWC

DATE:
1/3/2012

FILE:

SITE PHOTOGRAPHS





РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R&R Environmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
CREATED BY: JRWC	DATE: 1/4/2012	FILE:	

SITE PHOTOGRAPHS





РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R&R Environmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR
CREATED BY: JRWC	DATE: 1/5/2012	FILE:

SITE PHOTOGRAPHS





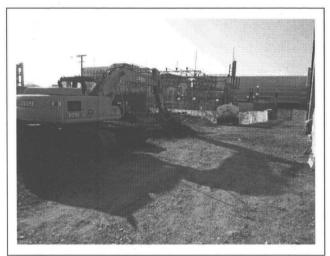
РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R&R Environmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR						
CREATED BY: JRWC	DATE: 1/6/2012	FILE:						

SITE PHOTOGRAPHS



PROJECT NAME:	Third	West Sub - Rebuild	DATE: Mor	nday, January 2,	ua r y 2, 2012			
PO & Work Order NO. :	3000	0078050 / 10035803	MAIN CONTRACTOR	: Cache Valle	y Electric			
Crew Start Time:	7:30	Crew Stop Time:	16:20	Tot Hrs mns:	8:50			
FCR Start Time:	6:50	FCR Stop Time:	16:55	Tot I-Irs mns:	10:05			
	0.50	FCK Stop Time.	10.55		10.05			
Use military time format 00:00	•							
WEATHER CONDITIONS:	•	Sunny	, 25 degrees in AM,					
		eral comments, instructions to on site today. Newman started the						
on Tuesday. Newman then starte compaction tests to pass, but the foot of backfill in the morning. Th	ed placing ma re is some de	idump arrived at 10:00 and will load aterial in the west end of the switchgeflection in the north 1/3 of the found protected with concrete blankets to Wilding = 1	gear area and compacting. Idation. They still need to put	They were able to in approximately	get one more			
IF WORKING IN ENERGIZED	S CUBETA	FIONI						
Dispatcher login, name and time:		an 0655						
Dispatcher logout, name and time		an 1655	·					
DISCREPANCIES:	- jrauri	aii 1033	IMMEDIATE CORRECT	VE ACTION TO	KEN:			
	sub that were i	under the yard rock and not included in	CVE to provide CO for removir					
the details of concrete to be removed								
11/16 - No resolution on the 20' grour	nd rod issue.		CVE to provide per unit price to	drill concrete.				
Demo Plan.		below grade and does not show on the	WII excavate to determine dim					
indicates that they were told to proceed 12/15 - Excavated to locate the 46 kV didn't find them. Will try again. Actua	ed with the inst cables exiting al depth will be	the west side of the yard. Dug 8' and much deeper than design of new bank	Sent email and pictures to Rog acceptable to RMP. Under eva Sent e-mail to Roger F.					
1	rered, idle): klift, 1 dumpste			boom truck (2). Ne	wman:			
OSHA Recordable Safety In	cidents:	Reporte	d by:	Time:				



PROJECT NAME:		Third West Sub - Rebuild		DATE: Tuesday, January 3, 2011								
PO & Work Order NO. :		3000078050 / 10035803		MAIN*CONT	RACTOR :	Cache Valle	y Electric					
Crew Start Time:	7:00	Crew St	op Time:	16:30	1	Tot Hrs mns:	9:30					
FCR Start Time:	6:45		op Time:	16:45		Tot Hrs mns:	10:00					
Use military time format 00:00	0.40		op (c	10.40	<u> </u>	Tottma iimia.	10.00					
Ose mintary time format 00.00												
WEATHER CONDITIONS:		Sunny	, 35 degre	es in AM , 50 d	egrees in F	M						
DESCRIPTION: (work perfo												
R&R set up four monitors. CVE and covering the west switchgea covering of the walls. Eagle Env Newman loaded out one truck (c	ir area w vironmen	as not complete to allow them tal was on site, performing mai	t o work i n t ntenance o	hat area. Newma	an did comp i arrier around	lete the compact the exclusion a	tion and					
				9								
IF WORKING IN ENERGIZE				•		·						
Dispatcher login, name and time		Swinski 0645										
Dispatcher logout, name and tim	ie: B	arry Nielson1645		·								
DISCREPANCIES:				IMMEDIATE CO								
11/22 - We found two fdns in the old		•	ncluded in	CVE to provide CO	for removing	the additional con	crete.					
the details of concrete to be removed 11/16 - No resolution on the 20' group				CVE to provide per	unit price to	drill concrete						
i				OVE to provide per	dilic piloc to t	arm concrete.						
11/30 - Identified an additional retain Demo Plan.				Will excavate to det								
12/14 - Communications battery rack				Sent email and pict	_							
indicates that they were told to proce 12/15 - Excavated to locate the 46 k				<u>acceotable to RMP.</u> Sent e-mail to Roge		lation by Comm G	eionb					
didn't find them. Will try again. Actu					•••							
DELAYS OR LOST TIME EN	ICOUN.	TERED:										
EQUIPMENT (working, deli-			sion zone co	onex (2), tool trailer	crew truck. b	oom truck. Newn	nan: portable					
wash-down structure, trachoe, bobo					J. C. F. G. GON, D	COM GOOK. HOWII	portable					
3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3						•						
OSHA Recordable Safety In	ncident	s:		Reported by: Ti								



PROJECT NAME:	Third West Sul	b - Rebuild	DATE: Wednesday, January 4, 2012								
PO & Work Order NO. :	3000078050 /	10035803	MAIN CONT	RACTOR	: Cache Valle	y Electric					
Crew Start Time:	7:00	Crew Stop Time:	16:15	5	Tot Hrs mns:	9:15					
FCR Start Time:	6:40	FCR Stop Time:	16:35	5	Tot Hrs mns:	9:55					
Use military time format 00:00	0.10	, 5,, 5,5,5		<u></u>		0.00					
occ minut y anne format coroc											
WEATHER CONDITIONS:		Sunny, 30 degr	ees in AM , 50 d	egrees in I	PM						
			•								
DESCRIPTION: (work perform											
R&R set up four monitors. CVE fab a total of 45 CVE = 1, Newma	n = 4, M iller = 3, R&I		annoace out six	·	ps (while: Truck)	ing, wasy, iq					
IF WORKING IN ENERGIZED S Dispatcher login, name and time:	Al Swinski 0642										
Dispatcher logout, name and time:	Barry Nielson 163	5									
DISCREPANCIES:	<u> </u>		IMMEDIATE C								
11/22 - We found two fdns in the old sub		rd rock and not included in	CVE to provide CO	for removing	the additional con-	crete.					
the details of concrete to be removed from 11/16 - No resolution on the 20' ground re			CVE to provide per	unit price to	drill_concrete.						
11/30 - Identified an additional retaining v	wall that is below grade	and does not show on the	Will excavate to de	termine dime	nsions.	-					
Demo Plan. 12/14 - Communications battery rack ext	ends into the northeast	doorway. Capital Electric	Sent email and pict	ures to Roge	r F to confirm that	this conflict is					
indicates that they were told to proceed v	vith the install by Barry	Andersor	acceptable to RMP	Under eval							
12/15 - Excavated to locate the 46 kV ca didn't find them. Will try again. Actual de	-		Sent e-mail to Roge	er F.							
DELAYS OR LOST TIME ENCO		or than design of new bank									
						·					
EQUIPMENT (working, deliver											
CVE fab crew: Portable toilet (2), fbriklift, wash-down structure, trachoe, bobcat, n				crew tru c k, t	poom truck. Newn	nan: portable					
OSHA Recordable Safety Incid	lents:			Reported	by:	Time:					
	-			, ,							



PROJECT NAME:	Third West	Sub - Rebuild	DATE:	5, 2011	
PO & Work Order NO. :	30000780	50 / 10035803	MAIN CONTRA	CTOR : Cache Va	lley Elec tr ic
Crew Start Time:	6:50	Crew Stop Time:	16:55	Tot Hrs mns	: 10:05
FCR Start Time:	6:40	FCR Stop Time:	17:10	Tot Hrs mns	
		PCK Stop Time.	17.10	Tot his hills	. 10.30
Use military time format 00:00	,				
WEATHER CONDITIONS:		Sunny, 2B degre	ees in AM , 50 deg	rees in PM	
DESCRIPTION: (work perf					
R&R set up four monitors. CVE for the west footing section with slump and the air testing performance. Newman loaded out six to project of 57. Two more loads obuilding (A1, B1, B2, B4, B7, B7 Miller = 3, R&R = 1, Wilding = 1	a scheduled concrete med by Wilding. CVE rucks by 11:00 AM an in Friday should comp 10, and B17). All pand	e pour at 3:30 PM. Pour actual Ecrew also installed support build an additional six trucks by the polete the initial cleanup of cond	ally started at 4:00 a eams for the grating he end of the day fo crete/dirt. CVE unlo	nd concrete (9 cy) pass in the transformer oil c r a total today of 12 and aded 7 panels in the ne	sed both the containment d total for the
IF WORKING IN ENERGIZE Dispatcher login, name and tim	e: Al Swinski 06	 			
Dispatcher logout, name and tir	ne: Jim Bowman				
DISCREPANCIES:	··· -			RECTIVE ACTION	
11/22 - We found two fdns in the ol		e yard rock and not included in	CVE to provide CO for	removing the additional co	oncrete.
the details of concrete to be remove	ed from the site		CVE to manifely and the		
11/16 - No resolution on the 20' gro	una roa issue.		CVE to provide per un	t price to drill concrete.	
11/30 - Identified an additional retai Demo Plan.	_		Will excavate to determ		
12/14 - Communications battery rac		, ,	•	s to Roger F to confirm th	
indicates that they were told to proc 12/15 - Excavated to locate the 46			<u>acceptable to RMP. U</u> Sent e-mail to Roger F	nder evaluation by Comm	Group
didn't find them. Will try again. Act			Sent e-mail to Roger F	•	
DELAYS OR LOST TIME E		Top I than soon of non bank	 		 -
EQUIPMENT (working, del	ivered, idle):	······································			
CVE fab crew: Portable toilet (2), f wash-down structure, trachoe, bob	orklift, 1 dumpster, office		• • •	ew truck, boom truck. Nev	vman: portable
OSHA Population Sofetial	Incidonto		D.	anorted by	
OSHA Recordable Safety	incidents:		K(eported by:	Time:
				 	4
	 		<u> </u>		



PROJECT NAME:	Third '	West Sub - Rebuild	DATE:	DATE : Friday, January 6, 2001							
PO & Work Order NO. :	30000	078050 / 10035803	_ MAIN CONT	RACTOR :	Cache Valle	ey Electric					
Crew Start Time:	7:00	Crew Stop Time	16:45	5	Tot Hrs mns:	9:45					
FCR Start Time:	6:50	FCR Stop Time	: 16:55	5	Tot Hrs mns:	10:05					
Use military time format 00:00					•						
Ose minut y time ronnat co.cc	•										
WEATHER CONDITIONS:		Sunny, 28 dec	rees in AM, 45 d	egrees in F	<u> М</u>						
		ral comments, instructions to red fonns from footings, tied reba									
of the switchgear foundation. P concrete/dirt and then started ex	lanned pour for xcavating dirt in ails and frames a	the west wall section is Monday, the south end of the "west 138 k\ around the old 4 kV switchgear bu	1/9 @ 3:00 PM . N / bay". This makes	ewman loade s a total o f 60 ronmental r e	ed out three true Diloads. Newma	cks with an also					
IF WORKING IN ENERGIZE	D SUBSTATI	ON:									
Dispatcher login, name and time	e: Al Swins	ski 0650									
Dispatcher logout, name and time	ne: ???????	?? 1655		-							
DISCREPANCIES:			IMMEDIATE C	ORRECTIV	E ACTION TA	AKEN:					
11/22 - We found two fdns in the old	d sub that were un	nder the yard rock and not included in	CVE to provide CO	for removing	the additonal con	crete.					
the details of concrete to be remove											
11/16 - No resolution on the 20' gro	und rod issue.		CVE to provide per	unit price to d	Irill concret e .						
11/30 - Identified an additional retai Demo Plan.	ning wall that is be	elow grade and does not show on the	Will excavate to de	termine dimer	nsions.						
•		e northeast doorway. Capital Electric	Sent email and pict	•							
indicates that they were told to proc		Il by Barry Andersor the west side of the yard. Dug 8' and	Sent e-mail to Roge		ation by Comm C	eroup					
		ne west side of the yard. Dug 8° and nuch deeper than design of new bank		C F.							
DELAYS OR LOST TIME E			· •								
EQUIPMENT (working, del				· · · · · · · · · · · · · · · · · · ·							
1		, office trailer, conex , exclusion zone er washer, water truck, compactor (2),	• • •	, crew truck, b	oom truck. Newn	nan: portable					
OSHA Recordable Safety I	Incidents:			Reported	bv:	Time:					
			•	1 21.44	_ 						
· ·											





January 5, 2012

Laboratory Code: Subcontract Number:

res Na

Laboratory Report: Project # / P.O. # Project Description: RES 227086-1 None Given RMP - 3rd West Substation

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 227086-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 227086-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

RMP - 3rd West Substation

January 4, 2012

Analysis Type:

TEM, AHERA 24 Hour

Turnaround: Date Samples Analyzed:

January 5, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID Ni	umber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W010212-N	EM	844530	0.0800	1094	ND	0.0044	BAS	BAS
3W010212-S	EM	844531	0.0800	1090	ND	0.0044	BAS	BAS
3W010212-E	EM	84453 2	0.0800	1090	ND	0.0044	BAS	BAS
3W010212-W	EM	844533	0.0800	1096	ND	0.0044	BAS	BAS
Blank	EM	844534	NA	0	NA		·	
Blank	EM	844535	NA	0	NA			

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

Due Date: 1-5-12 Due Time:

RELIAE RESERVOITS Environmental, Inc. 5801 Logan 81. Danver, CO 80216 • Ph: 303 884-1986 • Fex 303-471-4276 • Tou Flee :868 RESIENV

Page 1 of /

	P≢ger : 503-509 INVOICE TO: (IF			CNT										•	04FF			·^_			0		··
Company: R. F. Emyronmental, Inc	Company:	Dir	FER	ENI		Cor	tact?	54	1.1	7	-	<i>L</i> -	الرم	211	ONT	101		Contact		<u> </u>			 -
Address: 1011 and C 47	Addrese:					Ph	ne:	ja Pizi	VE.		92	100	继	<i>z</i> y_				Phone:					
4+W, TOUS A CO						FBO		72	1.3	7	سا		2,7					Fex:					
Sangy at Gara	 						/psga	kr:					_					Celt/pe	101;				
Project Number and/or (1.0. #:						Fir	el Dat	ta Dell	ldenevi	e Eme	ii Add	tress:					_		_				
Project Description Accessor: ZMP-3vd 128cot Substantin	7h	_					DA	+V	190	2	P	ZE	W	VIF	20	,CI	P.	1					
ASBESTOS LABORATORY HOURS: Weekdays: 7am -7nm	and and the state of the control	. 13. 2	2.5		9,5,2	REQU	EST	FD	ΔN	ALY	SIS	4,2,4,	S			V	ÁLI	D M	ATRI	х со	DES	1.4	B NOTES:
ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm PLM / PCM / TEM RUSH (Same Day) \(\sumeq \text{PRIORITY} (Next Day)	y) STANDARD	-				7	T	T	Ť	TT	Ť		٦	T	+	_	ir = /	_	1		ılk = B		
(Rush PCM = 2hr, TEM = 6hr.)	.,	ł	f	İ	1	lι		11	- (11				1	\vdash		st =		1		int = P		
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - Sprn	agrigi Pirksoni (* Kuljeljo)	1	l	- (11	-	11	- 1	1	i	ŀ		Sc	 oll =	S		Wij	pe = W		
Matal(s) / Dust RUSH 24 hr 3-5 Day		}	J			11		1 1	}	11	1		1	1		Swa	b =	SW	\neg	F:	Food		
RCRA 8 / Metals & Welding RUSH 5 day 10 day	"Prior notification la required for RUSH	Ĕ	Orant,	1	l	1 5			-	ş		- (وا	:}	Drin	king	Wat	er = D	w w	aate V	Vater = WW		
Fume Scan / TCLP — ROSH Oday To day	turnarounds.**	Š	+ }	82		Scan	1	1	1	ş	1	1	1	ES				0	= Oth	er		I	
Organics 24 hr 3 day 5 Day		Ě	10			Metals		1	ì	Quantification	1,	اے ا	ontification	NOTES	**,	STM	1 E 17	92 ap	proved	wipe r	media only**		
MICROBIOLOGY LABORATORY HOUBS: Weekdays; 9am - 6pm		1			}] [8	or Quantification	5 6		-	\Box		7					
E.coll O1S7:H7, Collforms, S.aureus 24 hr2 Day	3-5 Day	Long report,	Level II, 7402,	OSHA	1	Full.	}	1	1	10		al light	2 8	OR OTHER	1	Į	l			- [
Salmonella, Listerja, E.coll, APC, Y & M48 Hr3-5 Da		ğ	= "	- , -	差	E	1	11		1.5	E 6	5 8	2	8	l	ļ	ļ	- 1		- 1			
	_48 Hr3 Day5 Day	12	1	7400B,	Respirable	yte(s) Welding	T		Ŧ	[[]	3	5 8	O 3	S	1					1		<u> </u>	
"Turner sund thries establish a laboratory priority, subject to laboratory volume and	are not guaranteed, Additional face	ğ		Micro-vac, IA, 7400B,	2	Analyte(s)	16		퉤	12	ō :	+ +	2 3	Ē	1 2	ŀ	Ì	- 1)		<u></u>	
apply for afterholirs, weekoads and holldaye.**		Stat			Total.	TO.P.	2		5157	2	*	<u> </u>		φ.	Volume	- (Code	5				Fûs 5	
Special Instructions:		ર્જ	1		۴.	S .	꽃	Ē	Ž E	ş	췽	Sameus:	وأق	15	1 2	rea	8	賣	Da	te	Time	EM N	mber (Laborator)
		PLS	TEN	PCM - 7400	DUST	METALS RCRA 8,	ORGANICS - METH	8	<u>ت ان</u>	ا گ			> 2	SAMPLER'S INITIALS	Sample	(L) / Area	Matrix	Containers	Colle	cted	Collected		Use Only)
Client sample ID's inust he umgli	a)	[프	•	$\overline{}$	ă	<u> </u>	Įō	╁╌	M	ICRO	BIO	OGY	_	100	100	뤽	3	**	mm/d	1	htt/nvn e/p		
1 3001042-14		-	PHE	74	-	 		1.1	_		+	+-	-	1	1/18	294	A	- { }	17	12	<u> </u>	25	14 3 36
						# 125 B			26 yi	\perp	1				140	90	4		2.5	1,000			[31
3		<u>L</u>						Ц			1			<u>ا</u>	10	10	\perp						32
A Secretary of the second of t			4	3 1 1	1										1.0	94	y		4	1			33
5 Rank		_		_]]		[[[/	_ {	_					\perp	34
6 Dant							77.5				1											4	3.5
7		Г					1	П		\top	\neg	T	T		T								
8	Profesional Color	10	1, 11																7 % 7 7 V 7				
9		1	<u> </u>	7			1	1		1-1		+		1	1				 -	-		1	
10		1	X.			1016	1		7367	1		1							200	14. j	Participants States of		
the state of the s	onal samples shall be listed on	atta	ched	Iona f	orm	<u></u> .)	نتان	لبل			للنيا		ــــــــــــــــــــــــــــــــــــــ	<u> </u>		1	لنا				<u> </u>	<u> </u>	
NOTE: RE) will analy::s incoming samples based upon by Drinelion received and will not se enalysis as tradicated on this Chairrof Chatody, shall constitute an analytical services agreer	responsible for errors or emissions in o	alcula	tions r	resulting	from	the thec	curacy	y of or	fgloal (data. 8	By sig	ining o	flont/c	ompany r	opresw	(B)fve	agre	as Viat	submis	sion of	the following s	imples for i	equested
5 47	January Deyrinan, tolling of the 1 so day			7				_	$\overline{}$				mito-0		80.	_							
Relinquished By:	-7 [17	7	10	Da	te/Ti	ime:	LZ	00	\leq	 ,	,	_				l	•	Cond				Sealed	Intact
Laboratory Use Only Received By:	aterylina: 1-41-	<u>/</u> 4	ء حرو	24	S.	Carrle ب	er:		10	K	E	Ty.				Ten	np. (1	F°) <u> </u>		– Y	es / No `	'es / No	Yes No
Results: Contact Day Prions Princil Fax Date	1512 Time 9:154 Initi	als	ALT.	Contac	_			Ph	one	Ema	il F	ex	_		Dat	<u> </u>				Tim	е	lnit	ials
Contact Rhone Email Fax Date	Tinio Init	ialS	T	Contac	et			Ph	one	Ema	II F	вχ			Dat	9				Tim	0	Init	lais_
	trackets:	- بخط 7	- 7		J ersio	ーー 含えを on 1	5 -	45	8.	9	. —												

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

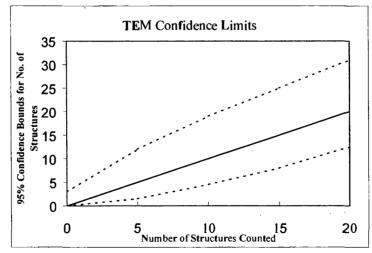
XGB = p'artly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.	
TEM Asbestos Structure Count	

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Alr, D=Dust):	θ
Air voluma (L) or dust area (cm2)	1094
Date received by lab	1/4/12
Lab Job Number:	227086
Lab Sample Number:	844530

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter usad	
Total Resuepsnsion Volume (ml)	
Volume Applied to assondary filter (rml)	

Analyzed by	- JK
Analysis data	1/4/12
Method (D=Olrect, 1=Indirect, IA⇒Indirect, ashed)	P
Counting miles (ISO, AHERA, ASTM)	Atl
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	No. of Structures Din		No. of Structures		Dimensions Identification		Mineral Class				1 = y	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS		
Â	14-3	N														
	KM-3	100			-	Pren	A 90	3 mlact.	5-7)	de	ins					
	H41-3	MO				Cro		Just	~1/4/	2						
	64-3	M										1.7				
B	K4-4	NO														
	Hy-4	MO						÷								
	G4-4	NO														
	F4-4	M														
											·					

Reservoirs Environmental	l, Ine.
TEM Asbestos Structure C	Count

ucture Count
RTR
A
1090
1/4/12
227086
844531

	
Analyzed by	-K
Analysis date	1/4/12
Method (D=Direct, I=IndIrect, IA=Indirect, IA=Indirect, ashed)	P
Counting miles (ISO, AHERA, ASTM)	Atl
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Ofity):					
Fraction of primary filter used					
Total Resuspension Voluma (ml)					
Volume Applied to secondary fifter (ml)	 				

Grid	Grid Opening	Strcture	No. of St	ructures	Dimer	nsions	Identification	Mineral Class	· · · · · · · · · · · · · · · · · · ·			1 = y	es, blank	= no
Ond	Ond Opening	Туре	Primary	Total	Length	Width	identification	Amohibole	ပ	NAM	Sketch/Comments	Sketch	Photo	EDS
A	F5-4	M												<u> </u>
	25-4	M			Pr	en A	90% W	tact 57	bele	bns				L
	05-4	M			Cr	er C	nA -	Saff 1	14/1=				·	
	B54	M						4	1					
B	H3-1	NO												
	(1.3-1	M												,
	F3-1	M												
	23-1	NO												

Laboratory name:

Magnification
Grid opening area
(mm2)

Scale: 1D =
Primary filter area
(mm2)
Secondary Filter Area
(mm2)

Instrument

Voltage (KV)

Scale: 1L =

QA Type

REI

JEOL 100 CX N (S)

20KX tokx

0.01 0.2S um

0.056 um 385

Reservoirs	Environmental, Inc.
TEM Asbes	tos Structure Count

	TEM Aspestos Str	icture Count
	Client :	RHR
(S)	Sample Tyoe (A=Air, D=Dust):	A
	Air volume (L) or dust area (cm2)	1090
	Date received by lab	1/4/12
	Lab Job Number:	227086
	Lab Sample Number:	944531
	F-Factor Calculation (Indirect Pre	ps Only):
	Fraction of primary filter used	
		1

Total Resuspension Volume (ml)

Volume Applied to secondary filter

	111
Analyzed by	- Marie
Analysis date	1/4/12
Method (O=Direct, i=indirect,	
IA=Indirect, ashed)	
Counting mies	4.1
(ISO, AHERA, ASTM)	// /
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid .	Grid Opening	Stmcture	No. of S	tmctures	Dime	nsions	Identification	Mineral Class			i .	1 = ves, blank = no		
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A.	F5-4	M												
	25-4	M			Pr	er F	90% W	tact 57	belo	bns		<u> </u>		
	05-4	M			l l'	er c	nA -	tact 57	14/13		<u>.</u>			
	B54	ND						4	<u> </u>					
B	H3-1	NO				<u> </u>								, , , , , , , , , , , , , , , , , , ,
	(13-1	M			1	<u> </u>							·	,
	F3-1	NO												
	23-1	M												
								·						
	1													

Laboratory nama:

Magnification Grid opening area

Scale: 1D =
Primary filter area

(mm2) Secondary Filter Area

Instrument

Voltage (KV)

Scale: 1L =

(mm2)

(mm2)

QA Type

REI JEOL 100 CX N

100 KV

20KX)10KX

0.01

0.2S um

0.056 um

385

Page	1	of	
-976	٠	U	

Laboratory name:	REI
Inshumeht	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L.=	0.28 um
Scale: ID=	0.056 urn
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	

Reservoirs	Environmental, Inc.
TEM Asbes	tos Structure Count

ucture Count
Rak
A
1090
1/4/12
22,7086
844532

F-Factor Calculation (Indirect Pr	reps Only):	
Fraction of primory (titer used		
Total Resuspension Volume (mi)		_
Volume Applied to secondary filter (ml)		_

	
Analyzed by	B
Analysis date	115/12
Method (D=Diract, I=Indirect, IA=Indirect, ashed)	Q-
Counting miles (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	nctures	Dimer	sions	Identification	Mineral Class	s		1 = yes, blank = no		= no	
		Туре	Primary	Total	Length	Width	1 1	Amphibole	c	NAM	Sketch/Comments	Sketch	Photo	EDS
1	F3-1	ND					<u>.</u>					,		
	E3-1	ND				\pa	Aab	80%	nh	nf.	5% del	pu S		
	(3-1	ND		·		0							·	
	R3-1	ND					h							
3	K5-4	ND					15,	5/12						
	H5-4	ND												
	615-4	M				T		·			7 -			·
	F5-4	M												
		:												

n	4			
Page	1	O!	_	

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Rak
A
1020
1/4/12
227086
844532

Analyzed by	.13
Analysis date	115/12
Method (D=Direct, I=Indirect,	
iA=Indirect, ashed)	
Counting rules	0.1
(ISO, AHERA, ASTM)	4#
Orid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):						
Fraction of primary filler used						
Total Resuspension Volume (mi)						
Volume Applied to secondary filter (ml)						

Grid	Grid Opening	Stmcture	No. of St	mctures	Dimensions		Dimensions		Dimensions		Identification Mineral Class		Mineral Class			1 = yes, blank = no	
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS			
A	F31	QU										,					
	E3-1	ND			2	0	AaB	80%	ub	ist.	5% del	eus					
	(3-1	ND				0		,,									
· .	B3-1	ND					h										
B	K5-4	ND					13	15/12									
<u> </u>	H5-4	ND						1									
	615-4	M				/					1 -						
-	F5-4	M															
		. :															

December En	
Reservoirs en	vironmental, Inc.
TT11 A - b 1	O
POTRAGRAMMAI	Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (1) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 üm
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
Client :	Rak
Sampla Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	1096
Date received by lab	1/4/12
Lab Job Number:	227086
Lab Sample Number:	844533

F-Factor Calculation (Indirect Pra	aps Only):
Fraction ot primary filtar Used	
Total Resuspension Volume (mi)	
Volume Applied to secondary filter (ml)	

Analyzed by	13
Analysis date	115/12
Method (D=Direct, I=Indirect,	
IA=Indirect, ashed)	0
Counting miles	
(ISO, AHERA, ASTM)	<i>F</i> +++
Grid storage location	Month Analyzed
Scdpe Alignment	Date Analyzed

Grid	Grid Opening	Stricture	No. of St	mctures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
	0.1.2 0,009	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	1-3-6	M												
	F3-6	WD												
	13-6	NO			Pris	DS A	B	~80%	an	H	5% deb	. 5		·
	C3-60	GN												
B	44-3	ND												
	64-3	ND							·					
	F4-3	ND						16						-
	E4-3	NO						B 1/51	/_					
·													1	

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



January 5, 2012

Laboratory Code: Subcontract Number: Laboratory Report: Project # / P.O. # Project Description:

NA RES 227101-1 None Given RMP - 3rd West

Substation

RES

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. Is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 227101-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except In full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0016

TABLE 1. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 227101-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

RMP - 3rd West Substation

Date Samples Received:

January 4, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

January 5, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter	
ID Number	ID Number		Analyzed Volume Sampled		Asbestos Structures Detected	Sensitivity	Concentration	Loading	
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)	
3W0103-N	EM	844635	0.0800	1164	ND	0.0041	BAS	BAS	
3W0103-S	EM	844636	0.0700	1160	1	0.0047	0.0047	14.3	
3W0103-E	EM	844637	0.0700	1160	ND	0.0047	BAS	BAS	
3W0103-W	ЕМ	844638	0.0700	1166	ND	0.0047	BAS	BAS	
Blank	EM	844639	NA	0	NA				
Blank	EM	844640	NA	0	NA				

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 227 101-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

RMP - 3rd West Substation

January 4, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

January 5, 2012

Client ID Number	Lab ID N	umber	Asbestos Mineral	Ast	estos Str	ucture Typ	oes*	Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for
			-	Fibers		Clusters		_g	۰	Concentration
3W0103-N	EM	844635	ND	0	0	0	0	0	0	0
3W0103-S	EM	844636	Chrysotile	0	0	0	1	0	0	1
3W0103-E	EM	844637	ND	0	0	0	0	0	- 0	0
3W0103-W	EM	844638	ND	0	0	0	. 0	0	0	0
Blank	EM	844639	NA	0	0	0	0	0	0	0
Blank	FM	844640	NΔ	0	0	0	0	0	0	0

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect aspect ratio

ND = None Detected

Due Dale: 1.512 Due Time:

REILAS RESERVOITS ENVIRONMENTAL, INC.. 6801 Logen St. Derver, CO 80218 • Ph: 303 864-1986 • Fax 303-477-4275 • Toll Free : 986 RESI-ENV

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Page_	1	of _	Ī

Pager: 303-809 INVOICE TO: (IF			MT\											CON	JT A C	TIN	E O D	MAT	ION:	0			
Company: RIE Ton (1001 Med Type Company:	<u> </u>	LIVE	141/		Cor	itact:	120	410	,	2	zt	_	712	271	IIAC	1 171	Conte		iOII.				
Address: U2 4 90012 S # 2 Address:					Pho	me:	200	1/2	eq i	5	7	77	۳	7			Phon	e:					
Sandia (Halo OHD 70)					Fax	:	LA	4	/ 7		10	7	7	-/-			Fax:						_
South of the state					Cel	/pago	or.										Cellit	ager:		· · ·			
Project Number and/or P.O. #:			,				ta Delive						_			_	_						
Project Description Location: PMP-310 WISH SWISHALLON						<u> 24</u>	₩¥	-6	<u>) (</u>	<u> </u>	<u> </u>	<u> 1</u>	$t \wedge$	I	20	0	01	1_		<u> </u>			
ASBESTOS LABORATORY HOURS: Weekdays: 7am + 7pm					REQI/	EST	EO A	NAL	YS	IS		 		7. Å. ().	1519	VAL	ID N	MATR	IX CC	DES	L	B NOT	ES:
PLM / PCM TEM RUSH (Same Day) X PRIORITY (Next Day)STANDARD	1		1		1	1		11	- }] [1				Air =	Α_		В	ulk = B			
(Rush PCM = 2hr, TEM = 6hr.)	1 1		1 1		1	1	11	11	1	1	1	1)	ŀ		ost =		-		int = P	 		
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - Spm	1		1					1 [1	1	1		1	- }-		Soil =				pe = W	 		
Metal(s) / Dust RUSH 24 hr 3-5 Day	1	Quant,	1		1 1	1	}		6		1	Ì		-		vab =				= Food			
RUSH 5 day 10 day required for RUSH	Point Count		} {		Scan	1	11	1 1	Coamtification	1		1	مراق	բ	Drinkin	g Wa				Water = WW	Ή		
Organics24 hr3 day5 Day	잍	+ Freps	{ }		SS	١	1)	[튑	}	1 1	1		}~	** A D7	34 54		0 = 01		media only**	 		
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9amSpm		8 8	1		Metals	1	} }	1 1	ð	Ē	ş			 -	70	144 2 1	7 92 8	ppiove	u wipe	media only	╅		
E.coll O1S7:H7, Coliforms, S.aureus 24 hr. 2 Day 3-5 Day	report		4		Analyte(s) CLP, Welding Fume.		11	1.1	<u>ع</u> اة		3	و اچ	- E	1		1					-		
Salmonella, Listeria, E.coll, APC, Y & M 48 Hr3-5 Day	{ <u>ह</u>	7402. ISO-Indi	SHA AH	2	2		1	}	‡ ŧ	2	8	틝	20 2	- }			1				 		
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**Turnaround times establish a laboratory priority, subject to tabpratory yolume shill are not gunranteed. Additional fees	뜅	RA, Lewel	74008,	Respirable	¥ ₹	픋	12/5	:	ğ۲,	١٤) o	ა <u>}</u>	\$ ₹	}	m		1)	}		
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Special Instructions:	Short	AHERA, ant, Mic	7400A.	- Total,	\ ' '	S	90	<u> </u>	8 .	E	18	۲ ۲ خ ا خ	K. S.	- }	۵ٌ ≤	Boo	je.				FM N	mher /	aboratory
	1 • 1	. 7	1 . 1		AR.	ORGANICS - METH	Salmonella: +/	Usteria:	8 8	Colifornis	Saur	€ }		ł	Pe Pe	ě			ate	Time	1.7 2.45	Use Only	
Client sample ID numbor (Sample ID's Inust be unique)	3	Semi	2	TSNO	METALS RCRA 8.	8	W) [1		ROB		1771		8		Sample Volume (L) / Area	Matrix	# Contain		ected odd/yy	Collected	1.275 d 1.3 1.32 d 1.32		
13W0103-H		HIZ	A						I	$oxed{L}$				Į.	16	A		1/3	3/12		8	44	32
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6 B) 021 E		1,27 m/s 15,777 m/s			12 y 15 m								A 2 7		ø			75.5°	7	3,402.0		+	40
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Number of samples received: (Additional semples shall be listed on a NOTE: REI will analyze incompine semples bissed upper-initionnation received and will not be responsible for errors or omissions in ca						uracv	of origin	nai dei	a Pw	elen	lna di	ent/c	omner	W 585V8	sectati	.a. a.c.	e fire	at eudern	ission of	me following s	amples for t	ani instad	
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite Cr = Tremolite Structure Types F = Fiber B = Bundle C = Cluster M = Matrix

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

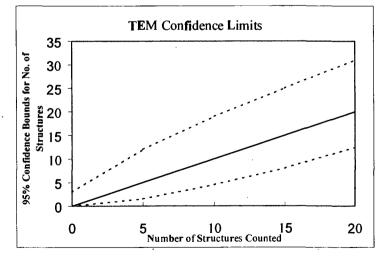
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

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age	1	of		

Rese	ervoirs Envir	onmentai	, 1nc.
TEM	Asbestos St	ructure C	aunt

Laboratory name:	REI
Instrument	JEOL 100 CX (N)S
Voltage (KV)	100 KV
Magnification	ZOKX JOKX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondaty Filter Area (mm2)	
QA Type	·

	201017-000111
Client :	KOR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	1164
Date recaived by lab	1/4/12
Lab Job Number:	227101
Lab Sample Number:	844635

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primery filtar used	
Total Resuspension Volume (mi)	
Volume Applied to secondary filter (mt)	

Analyzed by	JB
Analysis date	1/5/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	P
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class				1 = v	es, blank	= no
Ond	Ond Opening	Туре	Primary	Total	Lengttı	Width	, acritimodition	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	F5-4	MD				-								
	E5-4	ND		-	R	2 1	80	lombent.	50	ر ما	1115			
	C5-4	W			Pu	0	3	% intent	0	del	<i>U</i> 5			
	B5-4	ND												
B	F3-6	NO					A	2						<u>.</u>
	E3-6	ND					4	1/5/12						
	c3-6	M						1/						
	C3-4	MD					/							
													,	

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Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	ZÓKX JOKX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 urn
Primary filter area (mm2)	885
Secondary Filter Area (mm2)	
QA Type	

Client:	ROR
Sample Type (A=Alr, D≃Dust):	A
Air yolums (L) or dust area (cm2)	1160
Data received by lab	1/4/12
Lab Job Number:	227101
Lab Sample Nuthber:	844636

1 575
1/5/12
D
AH
Month Analyzed
Date Analyzed

F-Factor Calculation (Indirect Preps Only):								:
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	e	reps	reps C	reps Only	reps Only):	reps Only):	reps Only):	reps Only):

Grid	Grid Opening	Structure	No. of St	nictures	Dimensions		s Dimensions		es Dimensions		Dimensions		Dimensions		Dimensions		Dimensions		Dimensions		Dimensions		Dimensions		Dimensions		Dimensions		Dimensions		Dimensions		Dimensions		ensions Identification Mineral Class		lass				1 = yes, blank = no		
0	Ond Oponing	Туре	Primary	Total	Length	Widih		Amphibole .	С	NAM	Sketch/Comments	Sketch	Photo	EDS																													
A	H4-1	M																																									
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	614-1	M			2/2	()	CD		V		By			5 18 1 5 1																													
	F4-1	ND			1	hus 1	80%	what 5h	debo				: 4																														
	E4-1	M			1	lus	6 60%	what 50%	debu	<u></u>																																	
3	H3-4	ND				"																																					
	63-4	ND					1/2																																				
	F3-4	W				4	1/5/12																																				
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Res	ervoirs	Envir	onme	ntal, Inc.	
TEM	Asbes	tos S	tructui	re Count	

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX JOKX
Grid opening area (mrn2)	0.01
Scale: 1L =	0.28 um
Scale: 1D=	0.056 um
Primary filter area (mm2)	885
Secondary Filter Area (mm2)	
QA Type	

TEN PODUCIOS CI	00001A 000114
Client:	Kork
Samole Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	1160
Date received by lab	1/4/12
Lab Job Number:	227101
Lab Sample Number:	844637

Fractian of primary tilter used	1		
Total Resuspension Volume (ml)	T	 ٠.	
Volume Applied to secondary filter (ml)	Τ	 :	

Analyzed by	JB
Analysis date	1/5/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	ructures	Dime	nsions	Identification	Mineral Class	,			1 = y	es, blank	= no
	Cha Opening	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H2-6	ND												
	1/22-10	W		:		Bus	A	80/0 u tu	1	5	7h debr			
	F2-6	M			74. 1	Pinc	B	3 % who	(5-	7% dem	ر د		
	E2-62	M				.01								
B	F3-4	ND			2.5			1h						
	F3-4	ND						1B 1/5	V2					
	13-4	NO												
							/							

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N/S
Voltage (KV)	100 KV
Magnification	ZOKX JOKX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D=	0.066 um
Primary filter area (mm2)	885
Secondary Filter Area (mm2)	
QA Type	

	a o (a) A o o o o o o
Client :	ROR
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	Illala
Date received by lab	1/4/12
Lab Job Number:	227101
Lab Sample Number:	844638

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (mi)	
Volume Applied to secondary filter (mi)	

Analyzed by	JB
Analysis date	1/5/12
Method (D=Direct, I=Indirect, IA=Indirect ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class		·		1 ≃ yes, blank ≃ no		
	Cita Operang	Туре	Primary	Total	Length	Width	i de manoarion	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	614-3	ND_						,						
	F4-3	W			Puro	A	70%	about	50/	de	bus			
	E4-3	M			Po	B	60%	what	Sol	de	or S			
	164-3	M												· .
B	E44.	M												
	C4-4	MD					18	1/5/12						
	134-4	M						//						
							7							

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted x Average GO Area (mm)}$

Concentration, s/cc = $\frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



January 6, 2012

Laboratory Code: Subcontract Number: Laboratory Report: res Na

Project # / P.O. #
Project Description:

RES 227191-1 None Given RMP - 3rd West Substation

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 227191-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 227191-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

RMP - 3rd West Substation

Date Samples Received:

January 5, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

January 6, 2012

Client			Area	Air	Number of	Analytical	Asbestos	Filter	
ID Number	ID Number		Analyzed Volume Sampled		Asbestos Structures Detected	Sensitivity	Concentration	Loading	
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)	
3W0104-N	EM	845808	0.0800	996	ND	0.0048	BAS	BAS	
3W0104-S	EM	845809	0.0800	992	ND	0.0049	BAS	BAS	
3W0104-E	EM	845810	0.0800	992	ND	0.0049	BAS	BAS	
3W0104-W	EM	845811	0.0800	998	ND	0.0048	BAS	BAS	
Blank	EM	845812	NA	0	NA				
Blank	EM	845813	NA	n	NA				

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

Average Grid Opening in mm² = 0.010

BAS = Below Analytical Sensitivity Effective Filter Area = 385 sq mm

DATA QA

Due Date:_	1.6.12
Due Time:	745_

Results:

Contact

Contact

Drus

Phone

Émail Fax

Thone Email Fax

Date

Date

Reilas Reservoirs Environmental. Inc.

5801 Logan St. Denver, CO 60218 • Ph; 303 684-1606 • Pax 303-477-4275 • Tc6 Free :068 REBI-ENV Pager: 303-606-2098 INVOICE TO: (IF DIFFERENT) CONTACT INFORMATION: Conisd: Address Facc Call/pager: Final Date Onlivered a Front Artifrage Project Number end/or P.O. # rolect Description/Location: 12-MZ-REQUESTED ANALYSIS VALID MATRIX COOES LAB NOTES: ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm RLISH (Same Day) PRIORITY (Next Day) STANDARD PLM / PCM /TEM) Air = A Bulk = B (Rusti PCM = 2hr, TEM = 6hr.) Dust = D Paint = P CHEMISTRY LABORATORY HOURS: Weekdays: Bam - Spm Soil = S Wipe = W -12-RUSH _ 24 hr. 3-5 Day Metal(s) / Dust Swab = SW F = Food **Prior notification is Drinking Water = DW | Waste Water = WW RCRA 8 / Metals & Welding RUSH ___ 5 day ____10 day required for RUSH Fume Scan / TCLP O = Other turnareunds.** ÷ Organics 24 hr. ___ 3 day ___5 Day **A8TM E1792 approved wipe media only** MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm E.coll O157:H7, Coliforms, 8.aureus ___ 24 lar. ___ 2 Day Salmonella, Listeria, E.coll, APC, Y & M 48 Hr. 3-5 Day Mold RUSH 24 Hr 48 Hr 3 Day 5 Oay **Tumaround times establish a laboratory priority, subject to labpintory volume and are not guaranteed. Additional feet apply for afterhours, weekends and holidays." Special Instructions: (L) / Area EM Number (Leboratary Date Time Use Only) Collected Collected Client sample ID number (Sample ID's must be unique MICROBIOLOGY mm/dd/yy hh/mm a/o 845808 992 10 \mathbf{T} I Z 13 8 9 10 Number of samples received: (Additional samples shall be listed on attached king form.) NOTE: REI will analyze incoming samples based upon joranilation received and will not be responsible for errors or omissions in calculationo resulting from the inaccuracy of original data. By signing disnifcompany representative agrees that submission of the following samples for requested analysis as indicated on this Chair of Customy shall constitute an analytical-services agreement with payment terms of NET 30 days, failure je comply with payment terms may result in a 1.5% monthly interest aurobarge. Relinguished By: _Date/Fime: Sample Condition: On Ice Sealed Laboratory Use Only Yes / No Yes / No Yes / No . 5.12 Carrier: Received By:

Contact

Contact

Phona Email Fax

Phone Email Fax

Date

(-6.12

Time 1 24

Time

Initials

Initials

3828 4601

Time 9:45A Initials ##

Initials

Time

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

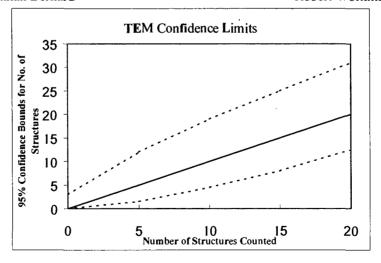
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltaaa (KV)	100 KV
Magnification	Ø∂xX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

RAR
А
996
1-5-12
227191
845808

Analyzed by	Ан
Analysis date	1-6-12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AIL
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary fitter used	
Total Resuspension Voluma (ml)	
Volume Applied to secondaty filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	identification	Mineral Class				1 = y	es, blank	= no
	C.A OPOLING	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	244-1	NS								<u>.</u>				
	64-1	2								.:				
	F4-1	25		Pilo	A: 8	0%	intact	57,	del	275				
	E4-1	2		Ciac		e A	·							
B	63-4	an		•							·			
	F3-4	ND						·		·				
	F4-10	M												
	E4-6	70				7		.•						
 										,				

I LIVI ASUESIOS SU	acture Count
Client :	RAR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (em2)	992
Date received by lab	1-5-12
Lab Job Number:	227191
Lab Sample Number	845809
F-Factor Calculation (Indirect Pre	eps Only):

Fraction of primaty filter used

Total Resuspension Volume (ml)

Volume Applied to secondary tiltsr (ml)

Analyzed by	Ан
Analysis date	1-6-12
Method (O=Oirect, I=Indirect, IA=IndIrect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

ſ		· · · · · · · · · · · · · · · · · · ·	·				·	r						 -	· ·
	Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class	···			1 = y	es, blank	= no ·
			Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
l	A	#33	ND		,		-								· .
		63-3	29						7						
	',	F3-3	MD		Per	A:	80%	intact	- 7-10°	de	6rS				
		£33	MD		D'R	B:	60%	infact	7-10/	de				·	-
	B	E36	MD					,							
		C36	MD					:							
		C4-4	M							a a a a a a a a a a a a a a a a a a a					
		B4-4	ND												
								X			•	·			
							-7								

Laboratory nama:

Instrument
Voltage (KV)

Magnification
Grid opening area
(mm2)

Scale: 1L =

Scale: 10 =

(mm2)

(mm2)

OA Type

Primary filter area

Secondary Filter Area

REI JEOL 100 CX N (S)

> 100 KV 20KX 10KX

> > 0.01

0.28 um ·

0.056 um

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	ØRX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Ciiant :	RAR
Samole Type (A=Air, D=Dust):	А
Air volume (L) or dust area (cm2)	9992 11/2
Date received by lab	1-5-12
Lab Job Number	227191
Lab Sample Number:	845810

F-Factor Calculation (Indirect Preps Only):							
Fraction of primary filter used							
Total Resuspension Volume (ml)							
Volume Applied to secondary filter (ml)							

	· · ·
Analyzed by	AH
Analysis date	1-6-12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Alt
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	fdentifidation	Mineral Class		•		1 = y	es, blank	•
<u> </u>	Gird Opening	Туре	Primary	Total	Lenath	Width	racmanagach	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H5-1	ND		· .				·						
,	G5-1	NΔ								•				
	F5-1	MD		Par	4; 9c	9 2	rtact	7-10/0	Pebr	. ()				
	ES-1	ND		Creo	Bi	Prep	A.							
	(5-1	MO						•						
3	E46	M							·					
•	C4-6	Δ												
	134-6	M			i				,					
													·	
					7									

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	€ 0800 101000
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

	DO10170 COUNT			
Client :	RAR			
Sample Type (A=Air, D=Dust):	Α			
Air volume (L) or dust area (cm2)	998			
Date received by lab	1-5-12			
Lab Job Number	227191			
Lab Sample Number	845811			

Scope Alignment	Date Analyzed
Grid storage locatton	Month Analyzed
Counting mies (ISO, AHERA, ASTM)	AH
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Analysis date	1-6-12
Analyzed by	AH

F-Factor Calculation (Indirect Preps Only):					
Fraction of primary filter used					
Total Resuspension Volume (ml)					
Volume Applied to secondary litter (ml)					

Grid	Grid Opening	Stmcture	No. of St	mctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank		
	C.I. Spoining	Туре	Primary	Total	Length	Width		Amphibole	c .	NAM	Sketeh/Comments	Sketch	Photo	EDS	
A	66-1	WD					_								
	F6-1	NO					·								
	Ebil	MD.		Piec	A: 8	0 (0)	ntact	5-72	deb	ქვ					
٠.	Cu-l	Δ		Pilo	Ba	60%	intact	5-7%	de	62					
B	14-3	ND								•					
	H4-3	MD													
	64-3	ND													
	F4-3	M													
													·	<u></u>	
				_						,					

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

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with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

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definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated alter completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted } x \text{ Average } GO \text{ Area } (mm)$

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



January 9, 2012

Laboratory Code: Subcontract Number: Laboratory Report: Project # / P.O. # Project Description:

NA RES 227273-1 None Given RMP - 3rd West Substation

RES

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 227273-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101898-0; TDH: #30-0015

TABLE |. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 227273-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

RMP - 3rd West Substation

January 6, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

January 6, 2012

Client ID Number	Lab ID Ni	Lab / ID Number /		Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
			(mm²)	(L)	•••••	(s/cc)	(s/cc)	(s/mm²)
3W0105-N	EM	846316	0.0700	1204	ND	0.0046	BAS	BAS
3W0105-S	EM	846317	0.0700	1204	ND	0.0046	BAS	BAS
3W0105-E	EM	846318	0.0700	1204	ND	0.0046	BAS	BAS
3W0105-W	EM	846319	0.0700	1202	ND	0.0046	BAS	BAS
Blank	EM	846320	NA	0	NA			
Blank	EM	846321	NA	0	NA			

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity Average Grid Opening in mm² = 0.010 Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

Due l	Data:	١-	<u> 구·</u>	12
Due '	Time:		54	-5B

REILAB RESERVOII'S ENVIRONMENTAL, INC. 5801 Logn St. Denver, CO 80218 · Ph; 303 984 1988 · Fey 308-477-4278 · Toll Fine - 988 DESLENN

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Address:	77	AN IVE	457	The first		ddress:						Pho		B	Ψ,	7	74		47			Phone						
	1 00	Utre.	1. 24	020		··· ·· · · -						Fax		ZL	4.	72		05	<u> </u>			Fax						
	may	Justo	W 27-1	770					-			Cell	peger;									Cell/pi	Bder:					
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PLM / PCM /	Œ	Rus	SH (Same Day	PRIORI	Y (Next Day)	STANDA	R D	T			T			\top	Т	П		\top		1	Air.=	A		Bulk =	= B			
			(Rush P	CM # 2hr, TE	M = 6hr.)			╛			- 1	1				$ \cdot $	11	i			ust =	D		Paint :	= P			
		RATORY		ekdays: Ban		<u> 15 J. 15 J.</u>	N. Sayara Sayara ka]	ı	1 1	- {	- 1		11	- 1	11	11	1			Soil =	S		Wipe =	= W			
Metal(s) / Di	uet		RUSH	24 hr	_3-5 Day	MD-1	Banklau I.	1	崔	1 1			1			11		ļ		Sw	ab =	SW		F = Fo	ood			
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
T	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

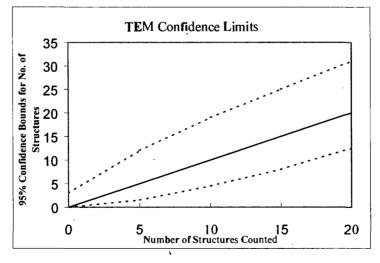
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Laboratory name:	REI
Instrumant	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	EOKX TOKX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondaty Filter Area (mm2)	
QА Туре	

Client :	RHR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	1204
Date received by lab	1/6/12.
Lab Job Number:	227273
Lab Sample Number.	846316

Analyzed by	·M
Analysis date	1/6/12
Method (D=Oirect, t=Indirect, IA=Indirect, astied)	D.
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Fraction of primary filter used		 	
Total Resuspension Volume (ml)			7
Volume Applied to secondary filtor (ml)			

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	≇ no
		Туре	Primary	Total	Length	Wldtti		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
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	135-4	2						Comp	m	ط / ا	112			<u> </u>
3	25-3	2												
	05-3	NO												
	BS-3	M							1.5					
	:													

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

 	
Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage fKV)	100 KV
Magnification	60KX 70KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scaie: IO=	0.056 um
Primaty filter area (mm2)	385
Secondary Filter Area (mm2)	
OA Type	

Client:	RHR
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	1204
Date received by lab	1/10/12
Lab Job Numben	227273
Lab Sample Number:	846317

F-Factor Calculation (Indirect Pre	ps Only):
Fraction of primary filter used	
Total Resuspansioπ Volume (mi)	
Volume Applied to secondary filter (ml)	

to the second of	
Analyzed by	M
Analysis date	1/6/12
Method (D=Direct, I=IndIrect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

	Grid	Grid Opening	Structure	No. of St	mctures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
			Туре	Primary	Total	Lenoth	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
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	: .														

Laboratory name:	REI
instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	EOKX POKX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.055 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
OA Type	

Client :	R+R
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (em2)	1204
Date received by lab	1/6/12
Lab Job Number	227273
Lab Sampla Number:	846318

Analyzed by	w
Analysis date	1/6/12
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):						
Fraction of primary filter used						
Total Resuspension Volume (ml)						
Volume Applied to secondary filter (mr)		:				

Grid	Grid Opening	Structure	No. of St	ructufes	Dime	nsions	Identification Mineral Class						1 = ves, blank = no	
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
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Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	EOKX POKX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Seals: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	RHR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	1207
Date received by lab	1/10/12.
Lab Job Number	227273
Lab Sample Number:	846319

Analyzed by	w
Analysis date	1/6/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D.
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):	
Fraction of primary filter used	:	
Total Resuspension Voluma (mi)		·
Volume Applied to secondary titler		

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class				1 = yes, blank = no			
<u> </u>	One Opening	Туре	Primary	Total	Length	Width	, dentineation	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS	
A	04-4	W				:									
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B	24-6	NO						(
	04-6	29								·					
	B4-6	8										·			

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



January 12, 2012

Laboratory Code: Subcontract Number: Laboratory Report:

RES NA RES 227556-1

Project # / P.O. #
Project Description:

None Given
RMP - 3rd West
Substation

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 227556-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 227556-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

RMP - 3rd West Substation

January 11, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

January 12, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID N	umber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W0610-N	EM	848741	0.0800	1084	ND	0.0044	BAS	BAS
3W0610-S	EM	84874 2	0.0800	1080	ND	0.0045	BAS	BAS
3W0610-E	EM	84874 3	0.0800	1080	2	0.0045	0.0089	25.0
3W0610-W	EM	848744	0.0800	1084	ND	0.0044	BAS	BAS
Blank	EM	848745	NA	0	NA			
Blank	EM	84874 6	NA	0	NA			

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity Average Grid Opening in mm² = 0.010 Effective Filter Area = 385 sq mm

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0016

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 227556-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

RMP - 3rd West Substation

Date Samples Received:

January 11, 2012

Analysis Type:

TEM, AHERA

24 Hour

Turnaround:

Date Samples Analyzed:

January 12, 2012

Client ID Number	Lab ID No	umter	Asbestos Mineral	Asi	estos Str	ucture Tyr	oes*	Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for
				Fibers	Bundles	Clusters	Matrices	J		Concentration
3W0610-N	EM	848741	ND		0	0	0	0	0	
3W0610-S	EM	848742	ND	. 0	0	0	0	0	0	0
3W0610-E	EM	848743	Chrysotile	1	0	0	1	0	0	2
3W0610-W	EM	848744	ND	0	0	0	0	0	0	0
Blank	EM	848745	NA							
Blank	EM	84874 6	NA							

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect aspect ratio

ND = None Detected

Due Date:	1. 12. 2
Due Time:	10150



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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type	Structure Types
A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite T = Tremolite	F = Fiber B = Bundle C = Cluster M = Matrix

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

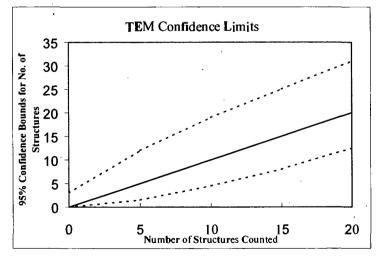
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Laboratory name:	REI
Instrument	JEOL 100 CX N /S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L ≈	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Fitter Area (mm2)	
QA Type	

Client :	RAR
Sample Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	1084
Date received by lab	1/11/12
Lab Job Number	227556
Lab Sample Number.	848741

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	: 1:

Analyzed by	J13
Analysis date	Uzliz
Method (D=Direct, l=Indirect,	77.
IA=Indirect, ashed)	
Counting mles	4.1
(ISO, AHERA, ASTM)	All
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	No. of Structures Primary Total L		nsions	Identification	Mineral Class				1 = yes, blank = no				
	Опо урония	Туре	Primary			Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS		
A	(93-1	ND.														
	F3-1	ND		·	Pin	0 7	70	6. strut	5-	10-/	debris					
	E3-1	M		·····	Pun	o P	80	Winharf	5-	0%	Je bri					
	E4-1	ND		 	γ		<u>'</u>									
B	H5-6	ND														
:	65-6	ND						13 /12/12								
	F5-6	ND						/ / /								
	E5-6	CN		<u>:</u>	,		-									
	-															

Laboratonr name:	REI
Instrument	JEOL 100 CX /N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D ≖	0.056 um
Primary filler area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	`

72 ASSOCIATE OF ECUATO COUNT						
Client :	RAR					
Sample Type (A=Alr, D=Dust):	A					
Ah volume (L) or dust area (cm2)	10 80					
Date received by lab	1/11/12					
Lab Job Number:	227556					
Lab Sample Number	848742					

F-Factor Calculation (Indirect Pre	7	_
Frastkm of primary filter used	* . * .	
Total Resuspension Volume (mil)	,	
Volume Applied to secondary filter (ml)		_

·	<u>-</u>
Analyzed by	JB
Analysis data	1/12/02
Method (D=Direct, l=Indirect,	777
IA=Indirect, ashed)	
Counting rules	A.1
(ISO, AHERA, ASTM)	All
Grid storage location	Month Analyzed
Scone Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Structures		Dimensions		Identification	Mineral Clasa				1 = yes, blank = no		
	Cite Sporming	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	1+4-1	ND				,								
	614-1	MD												
	[-H-	1/D			Lu	in t	4h.	~90/ in l	Int	5	10% dos	bus.		
	E4-1	, W						. /						
13	646	ND.			,			1						
	F4-6	ND.		4.				18 1/12/1	7	·				
	£4-6	ND												
	C4-6	22		Ź			•							
,													No. 10 Per	

Laboratory name:	REI
Instmment	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20100 10100
Grld opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 10 =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	Rock
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	10.80
Date received by lab	1/11/12
Lab Job Number	227556
Lab Sample Number:	848743

Fraction of primary filter used	1.0
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

	<u> </u>
Analyzed by	J13
Analysis date	1/12/12
Method (D=Direct, I≖indirect,	
IA=Indirect, ashed)	
Counting rules (ISQ, AHERA, ASTM)	All
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	f/ilineral Class		,		1 = y	es, blank	= no
	4,5	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	43-3	ND.												
	633	MD		·		Pux	AgR	~ 80%	nha	f =	-10/db	15		
	F3-3	NP						70					1 4 10	
	E3-3	M		-	5	2	D		<					
B	143-6	ND												
:	193-6	ND:						,			·			
	F3-6	1-		2	2	-	Q S		\ \	·	Alm.			
· ·	E3-6	NO									Ullis			
				_			13	1/12/12						
							. / /	7 /						

	
Laboratory name:	REI
Instrument	JEOL 100 CX NS
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D=	0.056 um
Primaty filtar area (nım2)	385
Secondary Filter Area (mm2)	333
QA Type	

Client :	RAR
Sample Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	1084
Date received by lab	1/4/12
Lab Job Number	227556
Lab Sample Number	848744

ab Sample Number	848747					
Factor Calculation (Indirect Pr	ebs Only):					
action of printary filter used	·					
otal Resuspension Volume (mi)						
olume Applied to secondary filter						

Analyzed by	J13				
Analysis date	1/12/12				
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	77				
Counting niles (ISO, AHERA, ASTM)	All				
Grid storage location	Month Analyzed				
Scope Alignment	Date Analyzed				

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			1 = yes, blank = no			
J.,.			Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	F3-3	ND.											·	
	£3-3	ND			Pins		90/	but.	5-10	1/4	bis	•	.,	
	033	ND			Pup	В	70 %	tent	5-10	ble	bus			
	C4-6	MD			4	,								
13	14-4	ND						/						
<u> </u>	64-4	ND					·	Sh 1/12/12						 -
	F4-4	ND.												
	E4-4	ND				·								
					•									

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening